Claims:

1. A method of recycling aluminum alloy wheels, the method comprising:

a) providing a feed of aluminum alloy wheels of a particular alloy;

b) fragmenting the aluminum alloy wheels into a plurality of pieces;

c) subjecting the pieces to magnetic separation to produce pieces having a reduced iron content; and,

d) subjecting the pieces having a reduced iron content to shot blasting to produce shot blasted pieces.

2. The method as claimed in claim 1 wherein the step of fragmenting the aluminum alloy wheel into the plurality of pieces comprises shredding the aluminum alloy wheel into the plurality of pieces.

3. The method as claimed in claim 2 wherein the shredding produces at least one of dirt and fines and the method further comprises separating the dirt and fines from the plurality of pieces.

4. The method as claimed in claim 3 wherein the dirt and fines from the plurality of pieces are removed by screening.

5. The method as claimed in claim 1 further comprising collecting the shot blasted pieces for use in manufacturing a component made from aluminum alloy.

6. The method as claimed in claim 1 further comprising collecting the shot blasted pieces for use in manufacturing an aluminum alloy wheel.

7. The method as claimed in claim 1 wherein the wheels are made from alloy A356.2 and the method further comprises collecting the shot blasted pieces for use in manufacturing aluminum alloy wheels made from alloy A356.2.

8. The method as claimed in claim 1 further comprising subjecting the shot blasted pieces to eddy current separation to produce further treated aluminum alloy pieces.

9. The method as claimed in claim 8 further comprising collecting the further treated aluminum alloy pieces for use in manufacturing a component made from aluminum alloy.

10. The method as claimed in claim 8 further comprising collecting the further treated aluminum alloy pieces for use in manufacturing an aluminum alloy wheel.

11. The method as claimed in claim 8 wherein the wheels are made from alloy A356.2 and the method further comprises collecting the further treated aluminum alloy pieces for use in manufacturing aluminum alloy wheels made from alloy A356.2.

12. The method as claimed in claim 1 further comprising removing chrome-plated aluminum alloy wheels from the feed of aluminum alloy wheels.

13. The method as claimed in claim 1 further comprising preparing the feed of aluminum alloy wheels of the particular alloy by removing from a feed of aluminum alloy wheels chrome plated wheels and wheels that are not made of the particular alloy.

14. The method as claimed in claim 13 further comprising separately subjecting the chrome-plated aluminum alloy wheels to steps (b) – (d).

15. The method as claimed in claim 1 wherein the particular alloy is an alloy used for aluminum alloy car wheels and the method further comprises preparing the feed of aluminum alloy wheels of the particular alloy by removing from a feed of aluminum alloy wheels chrome plated wheels, motorcycle wheels and truck wheels.

16. A method of recycling a particular aluminum alloy comprising:

a) providing a feed of the particular aluminum;

b) fragmenting the aluminum alloy into a plurality of pieces;

c) subjecting the pieces to magnetic separation to produce pieces having a reduced iron content; and,

d) subjecting the pieces having a reduced iron content to shot blasting to produce shot blasted pieces.

17. The method as claimed in claim 16 wherein the step of fragmenting the aluminum alloy into the plurality of pieces comprises shredding the aluminum alloy into the plurality of pieces.

18. The method as claimed in claim 17 wherein the shredding produces at least one of dirt and fines and the method further comprises separating the dirt and fines from the plurality of pieces.

19. The method as claimed in claim 18 wherein the dirt and fines from the plurality of pieces are removed by screening.

20. The method as claimed in claim 16 further comprising collecting the shot blasted pieces and using the shot blasted pieces as a feedstock of the particular aluminum to manufacture an aluminum alloy component.

21. The method as claimed in claim 16 further comprising subjecting the shot blasted pieces to eddy current separation to produce further treated aluminum alloy pieces.

22. The method as claimed in claim 21 further comprising collecting the further treated aluminum alloy pieces and using the further treated aluminum alloy pieces as a feed stock of the particular aluminum to manufacture an aluminum alloy component.

23. A method of recycling aluminum alloy wheels, the method comprising:

a) providing a feed of aluminum alloy wheels of a particular alloy;

b) fragmenting the aluminum alloy wheels into a plurality of pieces; and,

c) subjecting the pieces to shot blasting to produce shot blasted pieces.

24. The method as claimed in claim 23 wherein the step of fragmenting the aluminum alloy wheel into the plurality of pieces comprises shredding the aluminum alloy wheel into the plurality of pieces.

25. The method as claimed in claim 24 wherein the shredding produces at least one of dirt and fines and the method further comprises separating the dirt and fines from the plurality of pieces.

26. The method as claimed in claim 25 wherein the dirt and fines from the plurality of pieces are removed by screening.

27. The method as claimed in claim 23 further comprising collecting the shot blasted pieces for use in manufacturing a component made from aluminum alloy.

28. The method as claimed in claim 23 further comprising collecting the shot blasted pieces for use in manufacturing an aluminum alloy wheel.

29. The method as claimed in claim 23 wherein the wheels are made from alloy A356.2 and the method further comprises collecting the shot blasted pieces for use in manufacturing aluminum alloy wheels made from alloy A356.2.

30. The method as claimed in claim 23 further comprising subjecting the shot blasted pieces to eddy current separation to produce further treated aluminum alloy pieces.

31. The method as claimed in claim 30 further comprising collecting the further treated aluminum alloy pieces for use in manufacturing a component made from aluminum alloy.

32. The method as claimed in claim 30 further comprising collecting the further treated aluminum alloy pieces for use in manufacturing an aluminum alloy wheel.

33. The method as claimed in claim 30 wherein the wheels are made from alloy A356.2 and the method further comprises collecting the further treated aluminum alloy pieces for use in manufacturing aluminum alloy wheels made from alloy A356.2.

34. The method as claimed in claim 23 further comprising removing from the feed of aluminum alloy wheels chrome-plated aluminum alloy wheels.

35. The method as claimed in claim 23 further comprising preparing the feed of aluminum alloy wheels of the particular alloy by removing from a feed of aluminum alloy wheels chrome plated wheels and wheels that are not made of the particular alloy.

36. The method as claimed in claim 35 further comprising separately subjecting the chrome-plated aluminum alloy wheels to steps (b) and (c).

37. The method as claimed in claim 23 wherein the particular alloy is an alloy used for aluminum alloy car wheels and the method further comprises preparing the feed of aluminum alloy wheels of the particular alloy by removing from a feed of aluminum alloy wheels chrome plated wheels, motorcycle wheels and truck wheels.